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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/789,000

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Thomas M. Mayers

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EXAMINER

VAN SELL, NATHAN L

ART UNIT

PAPER NUMBER

1783

MAIL DATE

DELIVERY MODE

10/19/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/789,000	Applicant(s) MAYERS ET AL.	
	Examiner NATHAN VAN SELL	Art Unit 1783	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-9, 15 and 16 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-9, 15 and 16 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Response to Amendment

Amendments to the claims, filed on July 22, 2011, have been entered in the above-identified application.

Any rejections made in the previous action, and not repeated below, are hereby withdrawn.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-9 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kahara et al. (U.S. Patent No. 5,753,871) in view of Baig (U.S. Patent Application Publication No. 2002/0139611) and Forry et al. (U.S. Patent No. 4,585,685).

Regarding Applicant's claim 1, Kahara discloses a cast acoustical ceiling tile (*title*) having a core made from a starch gel and mineral wool fiber composition with the starch gel ranging from 75 to 83 weight percent of the core composition and the mineral wool fibers ranging from 17 to 25 weight percent of the core composition (*col. 2, lines 33-39*). The starch gel comprises at least about 82.7 weight % water, so it is a wet composition (*col. 2, lines 21-29*).

Kahara fails to disclose wherein the core of the tile includes aggregate particles with a mean diameter of at least 1,000 microns.

Baig '611 discloses an acoustical ceiling tile (*title*) having a core (*fiber rich surface layer made of mineral wool fibers, paragraph 0021*) made from a starch gel

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(*starch binder of starch in the form of a gel, paragraph 0027*), mineral wool fiber (*fiber rich surface layer made of mineral wool fibers, paragraph 0021*) and expanded perlite particle (*page 2, paragraph 18*) composition. Since the tile core contains the particulate perlite made from a flocculant with clay and gypsum, it is inherent some of the perlite would be at the top surface (*page 3, paragraph 26*). Additionally, the front surface of the tile is coated with aggregate particles (*calcium carbonate particle coating, paragraph 0061*). The benefit of the acoustical ceiling tile in Baig '611 is improved sound absorption (*abstract*).

Baig '611 fails to specifically disclose the aggregate particles are pressed into the front surface.

Forry discloses an acoustically porous building material (*title*) wherein the front surface of the tile is coated with aggregate particles (*col. 3, lines 11-21 and figure 1*). The aggregate particles are pressed into the front surface, which creates a relatively non-friable surface (*col. 3, lines 2-3 and figure 3*). Forry discloses using a particle with the largest size of 6 U.S. mesh (i.e., 3360 microns) (*col. 8, lines 25-30*).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add a layer of aggregate particles as taught by Baig '611 to Kahara in order to improve sound absorption. Furthermore, it would have been obvious to one of ordinary skill in the art to press, embed, the aggregate particles in the front surface as taught by Forry in the combination of Baig '611 and Kahara in order to make the surface relatively non-friable.

The limitation "abuse-resistant" is a functional limitation and is deemed to be a latent property of the prior art since the prior art is substantially identical in composition and/or structure. MPEP 2145 (II).

The limitation "pressed into said surface prior to drying of the composition" is a method limitation and does not determine the patentability of the product, unless the process results in a product that is structurally distinct from the prior art. The method of forming the product is not germane to the issue of patentability of the product itself, unless Applicant presents evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. MPEP 2113. Furthermore, there does not appear to be a difference between the prior art structure and the structure resulting from the claimed method because the combination of Kahara, Baig '611 and Forry discloses the same composition and structure for the claimed tile.

Regarding Applicant's claims 2 and 3, Baig '611 discloses that the aggregate particles are selected from the group consisting of calcium carbonate, crushed marble, sand, clay, perlite, vermiculite, crushed stone and glass (*page 6, paragraph [0061]*). Furthermore, the aggregate particles are specifically calcium carbonate (*calcium carbonate particle coating, page 6, paragraph [0061]*).

Regarding Applicant's claims 4 and 5, Forry discloses using a particle with the largest size of 6 U.S. mesh (i.e., 3360 microns) (*col. 8, lines 25-30*). In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. MPEP 2144.05 (I). Where the general conditions of a claim

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are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. MPEP 2144.05 (II).

Regarding Applicant's claims 6-9, Baig '611 discloses that dual layer ceiling tile with calcium carbonate coating has a noise reduction coefficient (NRC) value of at least about 0.50 (*page 6, paragraph [0062]*).

Regarding Applicant's claims 15-16, the limitations "wherein the tile is made from wet pulp," "wherein the aggregate is pressed using a roller," and "wherein the aggregate is pressed using a plate" are method limitations and do not determine the patentability of the product, unless the process results in a product that is structurally distinct from the prior art. The method of forming the product is not germane to the issue of patentability of the product itself, unless Applicant presents evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. MPEP 2113.

Claims 1-9 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cotts (U.S. Patent No. 3,184,372) in view of Baig (U.S. Patent Application Publication No. 2002/0139611) and Forry et al. (U.S. Patent No. 4,585,685).

Regarding Applicant's claim 1, Cotts discloses an acoustical ceiling tile (*col. 1, lines 13-15*) having a core made from a starch gel and mineral wool fiber composition with the starch gel ranging from 75 to 83 weight percent (*approximately 79 weight percent*) of the core composition and the mineral wool fibers ranging from 17 to 25 weight percent (*approximately 17 weight percent*) of the core composition (*col. 3, lines*

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61-53). The starch gel comprises at least about 82.7 weight % water (i.e., a wet composition) (*approximately 94 weight percent, col. 3, lines 44-50*).

Cotts fails to disclose wherein the front surface of the core includes aggregate particles with a mean diameter of at least 1,000 microns.

Baig '611 discloses an acoustical ceiling tile (*title*) having a core (*fiber rich surface layer made of mineral wool fibers, paragraph 0021*) made from a starch gel (*starch binder of starch in the form of a gel, paragraph 0027*), mineral wool fiber (*fiber rich surface layer made of mineral wool fibers, paragraph 0021*) and expanded perlite particle (*page 2, paragraph 18*) composition. Since the tile core contains the particulate perlite made from a flocculant with clay and gypsum, it is inherent some of the perlite would be at the top surface (*page 3, paragraph 26*). The front surface of the tile is coated with aggregate particles (*calcium carbonate particle coating, paragraph 0061*). The benefit of the acoustical ceiling tile in Baig '611 is improved sound absorption (*abstract*).

Baig '611 fails to specifically disclose the aggregate particles are pressed into the front surface.

Forry discloses an acoustically porous building material (*title*) wherein the front surface of the tile is coated with aggregate particles (*col. 3, lines 11-21 and figure 1*). The aggregate particles are pressed into the front surface, which creates a relatively non-friable surface (*col. 3, lines 2-3 and figure 3*). Forry discloses using a particle with the largest size of 6 U.S. mesh (i.e., 3360 microns) (*col. 8, lines 25-30*).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add a layer of aggregate particles as taught by Baig '611 to Cotts in order to improve sound absorption. Furthermore, it would have been obvious to one of ordinary skill in the art to press, embed, the aggregate particles in the front surface as taught by Forry in the combination of Baig '611 and Cotts in order to make the surface relatively non-friable.

The limitation "abuse-resistant" is a functional limitation and is deemed to be a latent property of the prior art since the prior art is substantially identical in composition and/or structure. MPEP 2145 (II).

The limitations "cast" and "pressed into said surface prior to drying of the composition" are method limitations and do not determine the patentability of the product, unless the process results in a product that is structurally distinct from the prior art. The method of forming the product is not germane to the issue of patentability of the product itself, unless Applicant presents evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. MPEP 2113. Furthermore, there does not appear to be a difference between the prior art structure and the structure resulting from the claimed method because the combination of Cotts, Baig '611 and Forry discloses the same composition and structure for the claimed tile.

Regarding Applicant's claims 2 and 3, Baig '611 discloses that the aggregate particles are selected from the group consisting of calcium carbonate, crushed marble, sand, clay, perlite, vermiculite, crushed stone and glass (*page 6, paragraph [0061]*).

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Furthermore, the aggregate particles are specifically calcium carbonate (*calcium carbonate particle coating, page 6, paragraph [0061]*).

Regarding Applicant's claims 4 and 5, Forry discloses using a particle with the largest size of 6 U.S. mesh (i.e., 3360 microns) (*col. 8, lines 25-30*) . In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. MPEP 2144.05 (I). Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. MPEP 2144.05 (II).

Regarding Applicant's claims 6-9, Baig '611 discloses that dual layer ceiling tile with calcium carbonate coating has a noise reduction coefficient (NRC) value of at least about 0.50 (*page 6, paragraph [0062]*).

Regarding Applicant's claims 15-16, the limitations "wherein the tile is made from wet pulp," "wherein the aggregate is pressed using a roller," and "wherein the aggregate is pressed using a plate" are method limitations and do not determine the patentability of the product, unless the process results in a product that is structurally distinct from the prior art. The method of forming the product is not germane to the issue of patentability of the product itself, unless Applicant presents evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. MPEP 2113.

Response to Arguments

Applicant's arguments filed July 7, 2001 have been fully considered but they are not persuasive.

The applicant argues that particles with the core are not taught by Baig, and there is no motivation to combine Baig with Kahara. In regards to Forry, the applicant argues that Forry teaches a different structure and that Forry lack sufficient motivation for combination with Baig and Kahara. The applicant reasserts the arguments in regards to the primary reference of Cotts.

First, the applicant misunderstands the teachings of Baig. Baig '611 discloses an acoustical ceiling tile (*title*) having a core (*fiber rich surface layer made of mineral wool fibers, paragraph 0021*) made form a starch gel (*starch binder of starch in the form of a gel, paragraph 0027*), mineral wool fiber (*fiber rich surface layer made of mineral wool fibers, paragraph 0021*) and expanded perlite particle (*page 2, paragraph 18*) composition. Therefore, Baig expressly teaches particles within the core, and it is inherent some of the perlite would be at in the top surface. Additionally, Baig teaches the front surface of the tile is coated with aggregate particles of calcium carbonate (*paragraph 0061*). The benefit of the acoustical ceiling tile in Baig '611 is improved sound absorption (*abstract*). The applicant argues that the tile with calcium carbonate particles has the lowest NRC value, but the invention of Baig as a whole teaches acoustic ceiling tiles of improved sound absorption.

Second, Forry teaches aggregate particles are pressed into the front surface, which creates a relatively non-friable surface (*col. 3, lines 2-3 and figure 3*). In regards to Forry, nothing in the instant claims speaks to perforations, fissures, porosity of the structure, tile appearance, or the use of additional binders, so nothing precludes the use of these additional steps as detailed by Forry (*col. 1, lines 19-24; col. 5, lines 17-28*).

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The skilled artisan would recognize the motivation of creating a non-friable layer since the skilled artisan would not want the ceiling tile to easily crumble or otherwise break while installation is occurring.

The examiner reasserts the arguments of the last two paragraphs in regards to the primary reference of Cotts.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHAN VAN SELL whose telephone number is (571)270-5152. The examiner can normally be reached on Monday through Friday, 9am til 6:30pm, EST, alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571)272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner, Art Unit 1783

/N. V./
Examiner, Art Unit 1783